

### **REMARKS**

In the Office Action dated December 22, 2008, the Examiner: (1) rejected claims 61-66, 68, 70-77, 80, 81, 89 and 91 under 35 U.S.C. § 101; (2) rejected claims 43, 54, 57-60, 79, and 84-87 under 35 U.S.C. § 112, ¶2; (3) rejected claims 1, 38-42, 61-66, 78, 80, 82, 83 and 88-91 under 35 U.S.C. § 112, ¶1 and (4) withdrew the previous rejection under 35 U.S.C. § 103.

Applicants have canceled claims 1 and 61, as well as the claims that depend on them. Applicants have also amended claims 43, 68 and 86 and the claims that depend on them to make explicit what was implicit. The claimed methods can be defined in relationship to the bases on the antisense strand or in relationship to the bases on the sense strand that are complementary to the referenced positions on the antisense strand. The added language in the criteria are supported by the previously pending claims set, as well as by page 21, lines 28 to page 22, lines 11 and page 22, line 32- page 23, line 14 of the specification as filed.

In view of the amendments above, Applicants respond to the outstanding rejections as follows:

#### **1. Response to Rejection under 35 U.S.C. § 101**

The Examiner rejected claims 61-66, 68, 70-77, 80, 81, 89 and 91 under 35 U.S.C. § 101. “[T]he proper inquiry under § 101 is . . . whether the claim meets the machine-or-transformation test.” *In re Bilski*, 545 F.3d 943, 961 (Fed. Cir. 2008). Under this test, an applicant may demonstrate that a claim satisfies the requirements of section 101 by showing either: (a) a claim is tied to a particular machine; or (b) a claim transforms an article. *Id.* Applicants have canceled claims 61-66, 80, 89 and 91, but address this rejection with respect to claims 68, 70-77 and 81 and respectfully submit that the rejected claims as amended satisfy both of these requirements.

*First*, the Court of Appeals for the Federal Circuit (CAFC) has recognized that algorithms are patentable when used in computer technology when they claim practical applications and are tied to machines. *In re Comiskey*, 2009 U.S. App. LEXIS 913 \*29 (Fed. Cir. Jan. 13, 2009) (“we have found processes involving mathematical algorithms

used in computer technology patentable because they claimed practical applications and were tied to specific machines”). Claim 68 has been amended to recite that the method requires accessing a computer and that the algorithm is stored in a computer readable form. (See step (c) of claims 61 and 68) Support for these amendments may for example be found in the claims themselves, as well as on page 28, lines 6-10, page 32, line 21 – page 33, line 4 and Examples II to XIV.

*Second*, the CAFC has stated: “So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to visual depiction that represents physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.” *In re Bilski*, 545 F.3d at 50. Claim 68 has been amended to explicitly comply with this standard. In the claim as amended, after the algorithm is applied by the computer, the computer causes the output of a sequence that satisfies the recited criteria. (See steps (d) and (e) of claim 68.) Support for these amendments may for example be found in the claims themselves as well as on page 28, lines 6-10, page 32, line 21 – page 33, line 4 and Example II to XIV.

Because claim 68 satisfies both of the requirements of the machine or transformation test as set forth in *In re Bilski* and *In re Comiskey* above, Applicants submit that claim 68 satisfies the requirements of 35 U.S.C § 101. Further, because claims 70-77, 81, and 91 depend on claim 68, they too satisfy 35 U.S.C § 101.

In compliance with Applicants’ duty of candor, Applicants notify the Examiner that similar issues under 35 U.S.C § 101 have been raised in application serial number 10/940,892.

## **2. Response to Rejection 35 U.S.C. § 112, ¶2**

The Examiner rejected claims 43-54, 57-60, 79 and 84-87 under 35 U.S.C. § 112, ¶2 as being indefinite. The Examiner noted that the removal of the phrase “within said duplex region” in the claims filed on December 3, 2007 created this ambiguity. Applicants express no opinion as to the merits of the Examiner’s position, but in the

interest of furthering prosecution have amended independent claims 43 and 68 to refer to “within the duplex region.”

**3. Response to Rejection 35 U.S.C. § 112, ¶1**

The Examiner rejected claims 1, 38-42, 61-66, 78, 80, 82, 83 and 88-91 under 35 U.S.C. § 112, ¶1, alleging that they do not comply with the written description requirement. Applicants respectfully disagree with the Examiner, but in the interest of furthering prosecution, Applicants have canceled these claims, thereby rendering the rejection moot.

Applicants submit that no fee is necessary with this response. However, if any fee is deemed necessary, Applicants authorize the Patent Office to charge the Deposit Account No. 11-0171 for any such sum.

Respectfully submitted,

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